NAME _____ DATE _____ PERIOD ____

3-3 Practice

ODDS

Slopes of Lines

Determine the slope of the line that contains the given points.

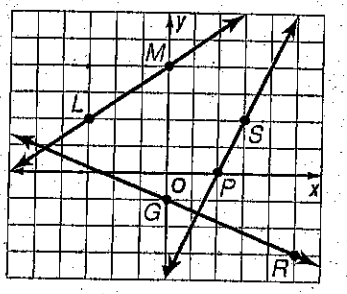
1. $B(-4, 4), R(0, 2)$ $\frac{-2}{+4} = \frac{-1}{2}$

2. $I(-2, -9), P(2, 4)$

Find the slope of each line.

3. $\overleftrightarrow{LM}$ $\frac{2}{3}$

4. $\overleftrightarrow{GR}$



5. a line parallel to $\overleftrightarrow{GR}$ $-\frac{2}{5}$

6. a line perpendicular to $\overleftrightarrow{PS}$

Determine whether $\overleftrightarrow{KM}$ and $\overleftrightarrow{ST}$ are *parallel*, *perpendicular*, or *neither*.

N 7. $K(-1, -8), M(1, 6), S(-2, -6), T(2, 10)$ $\frac{14}{2} = 7$ $\frac{16}{4} = 4$

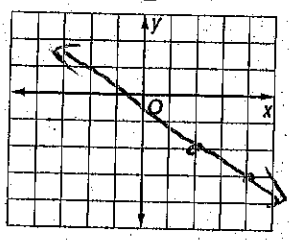
8. $K(-5, -2), M(5, 4), S(-3, 6), T(3, -4)$

9. $K(-4, 10), M(2, -8), S(1, 2), T(4, -7)$ Parallel $\frac{-18}{6} = -3$ $\frac{-9}{3} = -3$

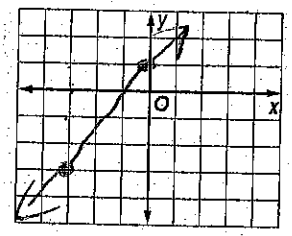
10. $K(-3, -7), M(3, -3), S(0, 4), T(6, -5)$

Graph the line that satisfies each condition.

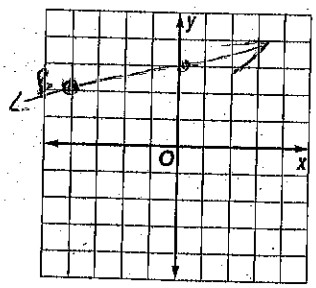
11. slope $= -\frac{1}{2}$, contains $U(2, -2)$



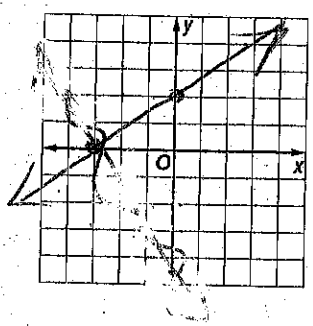
12. slope $= \frac{4}{3}$, contains $P(-3, -3)$



13. contains $B(-4, 2)$, parallel to $\overleftrightarrow{FG}$ with $F(0, -3)$ and $G(4, -2)$ $\frac{-2+3}{4} = \frac{1}{4}$



14. contains $Z(-3, 0)$, perpendicular to $\overleftrightarrow{EK}$ with $E(-2, 4)$ and $K(2, -2)$ $\frac{6}{-4} = -\frac{3}{2}$ $\frac{2}{3}$



15. **PROFITS** After Take Two began renting DVDs at their video store, business soared. Between 2000 and 2003, profits increased at an average rate of \$12,000 per year. Total profits in 2003 were \$46,000. If profits continue to increase at the same rate, what will the total profit be in 2009?

NAME _____ DATE _____ PERIOD _____

3-4

Practice

Equations of Lines

Write an equation in slope-intercept form of the line having the given slope and *y*-intercept.

1. m: $\frac{2}{3}$, y-intercept: -10 $y = \frac{2}{3}x - 10$

2. m: $-\frac{7}{9}$, $\left(0, -\frac{1}{2}\right)$ $y = -\frac{7}{9}x - \frac{1}{2}$

3. m: 4.5, (0, 0.25) $y = 4.5x + .25$

Write equations in point-slope form and slope-intercept form of the line having the given slope and containing the given point.

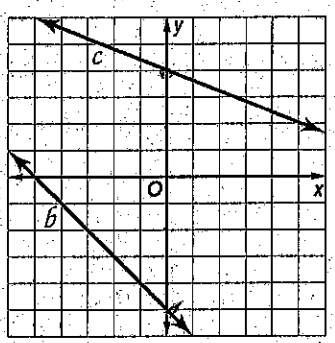
4. m: $\frac{3}{2}$, (4, 6) $6 = \frac{3}{2}(4) + b$, $0 = b$, $y = \frac{3}{2}x$, $y - 6 = \frac{3}{2}(x - 4)$

5. m: $-\frac{6}{5}$, $(-5, -2)$

6. m: 0.5, (7, −3) $-3 = \frac{1}{2}(7) + b$, $-6\frac{1}{2} = b$, $y = \frac{1}{2}x - 6\frac{1}{2}$, $y + 3 = \frac{1}{2}(x - 7)$

7. m: −1.3, (−4, 4)

Write an equation in slope-intercept form for each line.



8. b $y = -x - 5$

9. c $y = -\frac{2}{5}x + 4$

10. parallel to line b, contains (3, −2) $-2 = -1(3) + b$, $b = 1$, $y = -x + 1$

11. perpendicular to line c, contains (−2, −4) $-4 = \frac{5}{2}(-2) + b$, $1 = b$, $y = \frac{5}{2}x + 1$

Write an equation in slope-intercept form for the line that satisfies the given conditions.

12. $m = -\frac{4}{9}$, y-intercept = 2 $y = -\frac{4}{9}x + 2$

13. $m = 3$, contains (2, −3) $-3 = 2(3) + b$, $-9 = b$, $y = 3x - 9$

14. x-intercept is −6, y-intercept is 2 (−6, 0) (0, 2) $y = \frac{1}{3}x + 2$

15. x-intercept is 2, y-intercept is −5 (2, 0) (0, −5) $y = \frac{5}{2}x - 5$

16. passes through (2, −4) and (5, 8) $\frac{12}{3} = 4$, $8 = 4(5) + b$, $y = 4x - 12$

17. contains (−4, 2) and (8, −1) $\frac{-1-2}{8+4} = \frac{-3}{12} = -\frac{1}{4}$, $-1 = -\frac{1}{4}(8) + b$, $1 = b$, $y = -\frac{1}{4}x + 1$

18. COMMUNITY EDUCATION A local community center offers self-defense classes for teens. A $25 enrollment fee covers supplies and materials and open classes cost $10 each. Write an equation to represent the total cost of x self-defense classes at the community center.